DOCUMENT RESUME

ED 141 796 CS 003 589

AUTHOR Siddiqui, Dilnawaz
TITLE Effect of the Occurrence of Homophones in Teaching Material on Learning New Vocabulary.
PUB DATE [77]
NOTE 19p.; Report prepared at Syracuse University

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Grade 7; *Instructional Materials; Junior High Schools; *Learning Processes; *Memory; *Reading Research; Teaching Techniques; *Vocabulary Development; Vocabulary Skills
IDENTIFIERS *Homophones

ABSTRACT

This study examined the effect of the occurrence of homophones in instructional materials on the learning of new vocabulary. Forty-two junior high school seventh graders were randomly assigned to two groups of 21 each. Group one was exposed to a set of six slides that showed sentences using homophonic pairs of words (juxtaposed sentences) and then to another set of six using nonhomophonic pairs of words (substituted sentences). For group two, the order of showing the two sets of slides was reversed. Then all the subjects were given an identical 12-item, multiple-choice test. There was a statistically significant difference between mean scores on juxtaposed and substituted sentence pairs, favoring the substituted sentences. Results indicated an adverse effect from the occurrence of homophones in teaching materials. (Author/AA)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED141796

EFFECT OF THE OCCURRENCE OF HOMOPHONES IN TEACHING MATERIAL ON LEARNING NEW VOCABULARY

Dilnawaz Siddiqui

"PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL HAS BEEN GRANTED BY

Dilnawaz Siddiqui

TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE NATIONAL INSTITUTE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER."

Syracuse University

Syracuse, New York

CS 003 589

ABSTRACT

The purpose of this study was to look into the effect of the occurrence of homophones in instructional materials on the learning of new vocabulary. Forty-two junior high school seventh graders were randomly assigned to two groups of twenty-one each. Group One was exposed to a set of six slides showing sentences using homophonic pairs of words (Juxtaposed sentences), and then another six using nonhomophonic pairs of words (Substituted sentences). For Group Two the order of showing the two sets of slides was reversed. Then all the subjects were given an identical twelve-item multiple choice test. There was a statistically significant difference between mean scores on Juxtaposed and Substituted sentence pairs.

EFFECT OF THE OCCURRENCE OF HOMOPHONES IN TEACHING MATERIAL ON LEARNING NEW VOCABULARY

by

Dilnawaz Siddiqui

Several studies such as those of Conrad (1964) and Wickelgram (1965) show that most recall errors in normal hearing humans are of acoustic nature. They have ascribed this phenomenon to the fact that, regardless of the presentation modality (visual/aural), verbal material is always stored in normal human memory in form of acoustic traces. Atkin and Shiffrin (1967), Murdock (1968), and Laughery (1969) have also observed that, in large number of instances, aurally presented material is recalled more easily than visually presented material because Short Term Memory is primarily an auditory store.

Cermak's study (1972) on levels of informational encoding (acoustic, denotative, semantic, and conceptual) stresses that the type of material that can interfere with the recall of an item depends on the level of encoding it has achieved.

These findings on memory and its encoding function are based on experiments in retention and recall of homophonic digits and letters. Little attention has been paid to the acoustic quality of meaningful lexical items in language teaching material. The purpose of this study, therefore, was to look into the specific effect of the occurrence of homophones in instructional materials on the learning of new vocabulary; and it seeks to answer the following major questions:

1. What is the relationship between the occurrence of unfamiliar homophonic, words in teaching material and their semantic and conceptual learnability?
2. If acoustically dissimilar synonyms, relatively equal in difficulty, are substituted for a given set of homophones, will it be easier for the learner to retain and recall new words?

It was hypothesized that:

H_1: The two experimental groups would make more errors on juxtaposed homophonic words than on substituted nonhomophonic words on a semantic recall test.

Or: $\mu_{jux} - \mu_{sub} > 0$

This alternative hypothesis was tested in its null form.

H_o: μ jux- μ sub ≤ 0.

Method

Forty-two junior high school pupils were randomly assigned to two groups of twenty, Group One (G 1) and Group Two (G 2). G 1 was first shown a set of six slides of sentences, each sentence providing a context for a homophonic pair. Then they were shown another set of six slides of sentences using nonhomophonic pairs. Each of these latter pairs contained one key word--the other word being a substituted synonym used as a distractor.

The same mode of presentation was followed with G 2, but with the homophonic and nonhomophonic pairs reversed (e.g., the six key words which were in homophonic pairs for G 1 were in nonhomophonic pairs for G 2). Subjects in G 2 were exposed to nonhomophonic pairs before homophonic ones.

		Items	
		1-6	7-12
Groups	G 1	Jux B 1	Sub B 2
	G 2	Sub B 2	Jux B 1

Subjects. The subjects were 42 seventh graders at a junior high school located in a north Syracuse suburb. It was ascertained that they were not exposed to the lexical items used in the treatment sentences before this study.

Experimental materials: The stimulus material consisted of 12 pairs of words unfamiliar to the subjects. Of the 24 words, 12 were key words equally distributed over the pairs taught to all subjects, while the remaining 12 were used as distractors. Six of the homophonic distractors, with the 6 key words, were assigned to the "Jux" group while the other 6, nonhomophonic items, were used for the "Sub" group.

Five experienced junior high school English language teachers were consulted to determine the suitability of the material. Although the teacher for Group 2, which took the Sub pairs first and Jux last, felt that her pupils might have "eerie" in the repertoire of the incidental learning, it was retained in the study. Based upon this consultation, the following items were selected:

Common key words taught and tested: (see error frequency chart on page 11):

cite, vain, flair, slue, surge, augur,

eerie, veil, sheer, caste, assent, dual.

Jux distractors not tested:

site, vane, flare, slew, serge, auger,

aere, vale, shear, cast, ascent, duel.

The teaching material was presented on twenty-four 33 mm color transparencies with black print on a light, green base. The test material consisted of twelve 4-response multiple choice items printed in large primary type-script on 8-1/2" x 11" white paper.

Procedure. The slides were shown to both groups in two separate darkened rooms. During each test session, lights were turned on. The exposure time for each transparency (average length fifteen words) was 8-10 seconds allowing the learner a sufficient span for scanning and assimilation. After each set of six slides, a six-item multiple choice test of key words was administered to subjects and their scores were recorded.

Results

Table 1 (page 6) presents the raw data for each cell of a 2 x 2 latin square with repeated measures, while the results of analysis of variance are presented

Table 1

THE DATA USED IN THE EXPERIMENT

	A	B																					
G 1																							
	J	B1	5	3	2	1	5	4	4	5	5	4	3	5	5	3	3	2	3	2	4	3	4
	S	B2	5	4	6	5	6	6	3	4	6	5	4	6	6	4	4	6	4	5	5	3	3
G 2																							
	J	B2	5	3	5	3	1	5	3	4	5	4	4	4	4	3	3	4	5	4	4	2	5
	S	B1	4	4	5	4	3	5	3	6	5	4	3	4	3	2	3	4	4	4	5	3	4

G1 and G2 = Groups One and Two;
A + B = Factors A and B;
A = Two modes of presentation: Jux and Sub.
B = Items 1-6 and 7-12 (B1 and B2, respectively).

in Table 5. The F-ratios of 11.01 for within-subjects variance on factor A (jux/Sub modes) and of 7.99 on factor B (items 1-6 and 7-17 are statistically significant. An examination of the means (see Tables 2-4) suggests that the Sub method using synonyms has an obvious advantage over the Jux method using homonic words in the new vocabulary.

The data in the analysis of variance suggest that the subjects in the two groups did not differ, i.e., that they come from the same population ($F = 2.55$, $df = 1,40$). Neither between-groups nor the within-groups variance were statistically significant at the .05 alpha level.

In sum, the alternative hypothesis is supported in that the subjects' performance varies across the mode of learning homophonic vocabulary.

Discussion

The results of the study are indicative of an obvious adverse effect of the occurrence of homophones in teaching materials. The findings support studies by Conrad and Wickelgram (1964, 1965) which show that most recall errors are of acoustic nature. They also seem to favor the assumption based on Cermak's view that if there is confusion due to acoustic similarity at the very first

Table 2

COMPARISON BETWEEN MEAN SCORES OBTAINED BY THE EXPERIMENTAL GROUPS

	Groups		
	G 1	G 2	
Means	8.33	7.71	d = 0.62[a]
S.D.	1.69	1.55	

[a]The difference is not statistically significant at p = .05 level.

Table 3

COMPARISON BETWEEN MEAN SCORES OF THE TWO MODES OF PRESENTATION IN FACTOR A

	Juxtaposed	Substituted	
Means	7.38	8.66	d = 1.28[a]
S.D.	1.63	1.33	

[a]The difference is statistically significant at p = .05 level.

Table 4

COMPARISON BETWEEN MEAN NUMBERS FOR THE TWO SETS OF ITEMS IN FACTOR B

	Factor B (Items)		
	B1: 1-6	B2: 7-12	
Mean	3.730	4.280	d = 0.55[a]
S.D.	1.020	1.155	

[a]The difference is statistically significant at p = .05 level.

Table 5

ANALYSIS OF VARIANCE FOR A 2 x 2 LATIN SQUARE WITH REPEATED MEASURES

Source of Variance	Sum of Squares	df	Mean of Squares	F-Ratio
Between Subjects		41		
Groups	2.01	1	2.01	2.55
Subjects w/ Groups	62.48	40	1.56	1.98
Within Subjects		42		
Factor A	8.68	1	8.68	11.01
Factor B	6.30	1	6.30	7.99
Error	31.52	40	0.79	
Total	110.99	83		

Note: $p < .05$.

Table 6

ERROR FREQUENCY CHART

	cite	vain	flair	slue	surge	augur	eerie	veil	sheer	caste	assent	dual
Jux	6	14	11	0	21	8	1	0	5	13	1	5
Sub	8	7	8	0	17	4	0	0	8	15	2	8

level of encoding itself, it is likely to cause the learner greater difficulty in the conceptualizing and recall of the newly learned lexical item.

The significant difference between the mean scores (on each of the two sets of six pairs of sentences) seems to be the function of the small number of pairs in which the average is likely to fluctuate with the slightest change in the score on any one item (see Table 6).

One possible area of research relevant to comprehension and assimilation of verbal material can be a correlational study of field-dependence and intensive reading in which analytical subjects, as against global ones, are likely to give evidence of a special cognitive strategy for grasping meaning of individual items from their context.

References

Anastaiow, N. J. Cognition and language: Some observation, In Laffey, and Shuy (Eds.), Language difference. 1973.

Cermak, L. S. Human memory: Research and theory, New York: The Ronald Press Company, 1972.

Hartmann, R. Dictionary of language and linguistics.

Hedberg, J. A. A computer program (after Winer, 1962, pp. 712-717): Analysis of variance, 2 x 2, 3 x 3 latin square with repeated measures. 1972.

Kavanagh and Mattingly, I. E. (Eds.). Language by ear and by eye. Cambridge: M.I.T. Press, 1972.

Kirk, R. J. Experimental design procedures for the behavioral sciences. Belmont: Brooks Cole Publishing Company, 1969.

Lado, R. Language testing. New York: MacGraw-Hill Book Company, 1961.

Schaff, A. Language and cognition. New York: McGraw-Hill Book Company, 1973.